

DESIGN, INSTALLATION AND MAINTENANCE OF FIRE ALARM (F/A) SYSTEMS

IR A-21

References:

California Building Standards Code (CBSC) Title 24 Part 1, Sections 4-225(c) and 4-316 (e)
California Business and Professions Code, Sections 7026.12 & 7058
C.C.R., Title 16, Professional and Vocational Regulations, Section 832.16
Health & Safety Code 13195 & 13196.5
2002 or Current National Fire Alarm Code - NFPA 72

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Discipline: Fire and Life Safety

This Interpretation of Regulations (IR) is intended for use by the Division of the State Architect (DSA) staff, and as a resource for design professionals, to promote more uniform statewide criteria for plan review and construction inspection of projects within the jurisdiction of DSA, which include State of California public elementary and secondary schools (grades K-12), community colleges, and state-owned or state-leased essential services buildings. This IR indicates an acceptable method for achieving compliance with applicable codes and regulations, although other methods proposed by design professionals may be considered by DSA.

This IR is reviewed on a regular basis and is subject to revision at any time. Please check the DSA web site for currently effective IR's. Only IR's listed in the document at <http://www.dsa.dgs.ca.gov/Pubs/default.htm> (click on "DSA Interpretation of Regulations Manual") at the time of plan submittal to DSA are considered applicable.

Purpose: This Interpretation of Regulations (IR) clarifies who is qualified in California to design, install, and maintain fire alarm systems (F/A) for projects under DSA's jurisdiction according to the requirements of the California State Licensing Board (CSLB) and applicable referenced standards for all F/A installations in public schools, community colleges, and state essential services buildings.

1. Who Can Design F/A Systems:

- 1.1 All system design and installation must comply with 2002 NFPA 72 Section 4.3.2. An Electrical Engineer or a C-10 licensed contractor is authorized to design the system within the parameters of their license.
- 1.2 When the architect or engineer in general responsible charge utilizes construction documents prepared, signed, and/or stamped by other professionals, such as a Fire Protection Engineer or a National Institute of Certification in Engineering Technologies (NICET) III and/or IV certified person, the architect or engineer in general responsible charge must stamp and sign those documents. DSA will accept the Statement of General Conformance, shown in Appendix A, of DSA [IR A-18](#) (see <http://www.dsa.dgs.ca.gov/Pubs/default.htm>) in lieu of the signature and seal (or stamp) from the architect or engineer in general responsible charge (Title 24, Part 1, Section 4-225(c) or 4-316(e)).

2. Who Can Install F/A Systems:

- 2.1 The installation of F/A systems designed by an Electrical Engineer or other individuals as noted in Section 1.2 above, may be contracted out to other firms qualified to install Fire Alarm Systems.
- 2.2 Any system designed by a C-10 licensed contractor must be installed by that contractor with his/her own employees and under the supervision of the license-holder. Such systems may not be installed by another company or individual not professionally associated with the licensed installation contractor.
 - 2.2.1 Sub-contracting of either the design or installation by the contracted C-10 licensed Contractor is allowed within the parameters of Contract Law. However the original C-10 licensed Contractor will remain the supervisor and must retain liability and insurance responsibility for both design and construction.

- 2.2.2** AB 931 (Electricians Certification Program) is a law passed in 1999, along with other bills AB 1078, and AB 1719, which amends Section 3099 of the California Labor Code. This section of the Labor Code now requires ALL Electrician Employees of C-10 Contractors working on circuits that exceed 100 VA in the State of California to be tested, and "certified" by the State to perform work under an Electrical Contractor's (C10) license. Effective January 1, 2006, General Journeyman and Fire/Life Safety Technicians must carry cards, issued by the Division of Apprenticeship Standards (DAS), that prove they are certified, and which must be presented to the authority having jurisdiction, upon request of the code enforcement official.
- 2.2.3** As per 2002 NFPA 72: Section 4.3.3, F/A system installation personnel shall be supervised by persons who are qualified and experienced in the installation, inspection, and testing of fire alarm systems. Examples of qualified personnel shall include, but not be limited to, the following:
- Electrical Engineer;
 - Factory trained and certified personnel, working under the supervision of a licensed C-10 contractor;
 - National Institute of Certification in Engineering Technologies (NICET) fire alarm level II certified personnel working under the supervision of a licensed C-10 contractor; and
 - Personnel licensed or certified by state or local authority.
- 2.3** Systems designed and submitted utilizing one manufacturer's equipment may be substituted for a different manufacturer's equipment provided the substitution is accomplished via the DSA Change Order process, and must include the following:
- 2.3.1** New Manufacturer's applicable product data sheets; and
- 2.3.2** Battery and Voltage Drop calculations to match the new product data sheets; and
- 2.3.3** Any location changes, additions or deletions of devices or appliances must be shown on updated floor plans.
- 2.4** NICET certification is a recommended, but not a minimum requirement in California for California State Agencies.
- 2.5** Local Ordinances requiring less or additional measures, devices, or appliances shall not apply to public school facilities and may not be required by the Local Fire Authority or any other local entity. (Hall vs City of Taft).
- 3. Who Can Maintain F/A Systems?:**
- 3.1** Fire Alarm Systems shall be maintained by qualified persons, such as a person trained by the manufacturer to maintain the system. See NFPA 72, Chapter 10, 10.2.2.5; examples of qualified persons.
- 3.2** Programming of Fire Alarm Control Panels shall be done by factory authorized and trained personnel.
- 3.3** Warranties may be compromised if systems are not maintained according to recognized standards and manufacturer's guidelines.
- 4. Testing of Fire Alarm Systems:**
- 4.1** Acceptance Testing: Acceptance testing of projects under DSA construction oversight shall be performed by the C-10 Contractor's qualified supervisory personnel or their installing technicians and witnessed by the Project Inspector.

- 4.1.1** The Local Fire Authority may be invited, as a courtesy, to witness the final acceptance test of the DSA approved system so the Local Fire Authority can become familiar with the workings of the system and the system's configurations. The Local Fire Authority is not obligated to witness the test nor authorized to delay the testing until witnessing can be scheduled.
- 4.1.2** The Local Fire Authority may not require but may ask for or recommend changes to the DSA approved system. A Change Order shall be generated and processed through DSA. Initiation of any change shall not be performed without prior approval of DSA.
- 4.2 Annual Testing:** The fire alarm systems shall be tested in compliance with 2002 NFPA 72: Chapter 10, Table 10.4.3. In addition, the Local Authority is charged with inspecting all schools within their jurisdiction at least annually. During the inspection of the facility, a functional test of the fire alarm system and evacuation drill shall be performed to ensure that the system performs as originally approved by DSA. The testing can be done by qualified individuals trained by the installer, or by individuals employed and qualified by the installing C-10 Contractor or by individuals employed by a qualified C-10 licensed testing company. Witnessing of the Test and Evacuation Drill shall be performed by the Local Fire Authority.
- 4.3 Testing after maintenance or repair:** Testing performed after maintenance or repairs have been performed shall be made by repair/maintenance technicians trained and/or qualified by the manufacturer or as noted in NFPA 72, Chapter 10, 10.2.2.
- 4.3.1** Systems that require extensive replacement, modernization, or upgrade shall be submitted to DSA for review and approval (see [IR A-10](#)). Witnessing of tests after routine maintenance or minor repair shall be done by the Local Fire Authority. The responsibility of the Local Fire Authority is to ensure that the system operates as originally installed and approved by DSA.